

REMARKS

This Amendment is filed in response to the Office Action mailed on December 23, 2008. All objections and rejections are respectfully traversed.

Claims 1-8, 12, 14-25, 29, 31-35, 37-39, 41-42, 46-50 are currently pending.

Request for Interview

The Applicant respectfully requests a telephonic interview with the Examiner after the Examiner has had an opportunity to consider this Amendment, but before the issuance of the next Office Action. The Applicant may be reached at 617-951-3067.

Claim Rejections – 35 USC § 101

At paragraphs 6-7 of the Office Action, claims 1-8, 12, and 14-17 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

In particular, representative claim 1 recites a plurality of storage servers. The plurality of storage servers are hardware. Additionally, the processor executes the management application that organizes the data identifiers. The processor is hardware and executing the management application. Accordingly, claims 1-8, 12, 14-17 are believed allowable over the §101 rejection,

Claim Rejections – 35 USC § 103

At paragraph 10 of the Office Action, claims 1, 2, 17-19, 34, 35, 38, 39, 42, and 46-50 were rejected under 35 U.S.C. §103 as being unpatentable over Prahlad et al., US Patent Application Publication No. 2004/00100487, hereinafter Prahlad, in view of Shi et al., US Patent Application Publication 2003/0105889, hereinafter Shi.

The present invention, as set forth in representative claim 1, comprises in part:

1. A system for indexing and manipulating a set of backup data stored on a destination system interconnected with a plurality of source servers having source data from which the backup data is transmitted to the destination system comprising:

the plurality of source servers connected together to transmit the backup data to the destination storage system;

a management application executed by a processor, where the management application (a) communicates with the destination storage system and that accesses data identifiers related to the backup data organized in a tree structure and representing a plurality of persistent consistency point images (PCPIs) of the data, each with associated information related to creation time, (b) scans the plurality of PCPIs stored on the destination storage system to generate an index of directories, files, or qtrees, where each directory, file, or qtree has one or more versions created at one or more different points in time, and (c) organizes the data identifiers into a structure that enables the data to be displayed according to directory, file or qtree; and

a user interface to select a directory, file, or qtree to view and to select a source server from the plurality of source servers storing the selected directory, file or qtree, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file, or qtree, wherein each version of the selected directory, file, or qtree is stored in a separate PCPI and at least one version of the selected directory, file or qtree is stored on a second source server.

Prahlad discloses a system for creating a quick recovery volume of a primary data set, with the quick recovery volume stored on an archival storage unit. A snapshot manager indexes and manages the snapshots. A user interface allows users to browse and recover data from the snapshots, where the snapshots are displayed in a folder and a user can select a snapshot to look at the contents of the snapshot.

Shi discloses a user interface that displays all configurations of a selected application. Each configuration of the selected application is part of a different snapshot created at an earlier time.

Applicant respectfully urges that Prahlad and Shi, taken alone or in combination, do not teach or suggest Applicant's claimed novel *user interface to select a directory, file, or qtree to view and to select a source server from the plurality of source servers storing the selected directory, file or qtree, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file, or qtree, wherein each version of the selected directory, file, or qtree is stored in a separate PCPI and at least one version of the selected directory, file or qtree is stored on a second source server.* In further detail, in Applicant's claimed invention each snapshot is scanned to determine the different components, such as files, directories, or qtrees. The data is then organized into an index. The user then can select a particular qtree, file, or directory to view including different source server locations. When viewing a file for example, a user selects a file to view. The management application returns the selected file and one or more versions of the file created at one or more different points in time. The one or more versions of the file are stored in separate PCPIs and on different source servers, however the management application returns a single list of the file and the one or more versions of the file. This allows a user to see the different possible files to restore without searching through a plurality of PCPIs to find the file. The user then selects the appropriate file that the user wants to restore from the list.

In contrast, Prahlad only discloses a listing of snapshots in a folder organized on a volume basis. There is no disclosure of organizing contents of the snapshots, such as the files, directories, or qtrees stored within each snapshot to create a list. Specifically, there is no disclosure in Prahlad of creating a list for a single file that shows the file all the versions of that particular file, where the versions of the file are stored in separate snapshots and on separate storage servers. Prahlad merely discloses listing the contents of the snapshot in directory form, but Prahlad does not disclose organizing sections of a plurality snapshots into one list based on a user selected file, directory, or qtree. Shi merely discloses organizing an application in a user interface where different configurations are from different snapshots. There is no teaching or suggestion in Shi of organizing applications on different source servers.

Accordingly, Applicant respectfully urges that Prahlad and Shi, taken alone or in combination, are legally insufficient to make obvious the presently claimed invention under 35 U.S.C. § 103 because of the absence of the Applicant's claimed novel *a user interface to select a directory, file, or qtree to view and to select a source server from the plurality of source servers storing the selected directory, file or qtree, where the management application returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file, or qtree, wherein each version of the selected directory, file, or qtree is stored in a separate PCPI and at least one version of the selected directory, file or qtree is stored on a second source server.*

At paragraph 11 of the Office Action, claims 3-6, 20-23, 37, and 41 were rejected under 35 U.S.C. § 103 as being unpatentable over Prahlad and Shi, in view of Armangau, US Patent No. 6,434,681.

Applicant respectfully notes that claims 3-6, 20-23, 37, and 41 are dependent claims that depend from independent claims believed to be in condition for allowance. Accordingly, claims 3-6, 20-23, 37, and 41 are believed to be in condition for allowance.

At paragraph 12 of the Office Action, claims 7, 8, 12-16, 24-33, and 42 were rejected under 35 U.S.C. § 103 as being unpatentable over Prahlad and Shi, in view of Arakawa et al., US Patent Application Publication 2003/0131207, hereinafter Arakawa.

The present invention, as set forth in representative claim 42, comprises in part:

42. A system, comprising:

a source storage system configured to generate a plurality of persistent consistency point images (PCPIs), and transfers the plurality of PCPIs and data to a destination storage system;

the destination storage system executes a management client, where the management client organizes the plurality of PCPIs and the data into an index using *a database to allow the plurality of PCPIs and the*

data to be displayed in (a) a listing of source data entries indexed by names of directories, file or qtrees of the source storage system, where each directory, file, or qtree has one or more versions created at one or more different points in time (b) a listing of source data entries indexed by names of the source storage system, and (c) a listing of source data entries indexed by names of volumes of the destination storage system in which the backup data from the source data resides; and

an interface to select a data entry for a directory, file, or qtree, and the management client returns a list of only the selected directory, file, or qtree and the one or more versions of the selected directory, file, or qtree, wherein each version of the selected directory, file, or qtree is stored in a separate PCPI.

Arakawa discloses a table that includes source volume, destination volume, source physical volume no., and state information.

Applicant respectfully urges that Prahlad, Shi, and Arakawa, taken alone or in any combination, do not disclose Applicant's claimed novel system that *allows the plurality of PCPIs and the data to be displayed in (a) a listing of source data entries indexed by names of directories, file or qtrees of the source storage system, where each directory, file, or qtree has one or more versions created at one or more different points in time (b) a listing of source data entries indexed by names of the source storage system, and (c) a listing of source data entries indexed by names of volumes of the destination storage system in which the backup data from the source data resides.* In further detail, in Applicant's claimed invention each snapshot is scanned to determine the different components, such as files, directories, or qtrees. The data is then organized into an index. The user then can select a particular qtree, file, or directory to view including different source server locations. When viewing a file for example, a user selects a file to view. The management application returns the selected file and one or more versions of the file created at one or more different points in time. The one or more versions of the file are stored in separate PCPIs and on different source servers, however the management application returns a single list of the file and the one or more versions of the file. This allows a user to see the different possible files to restore without searching

through a plurality of PCPIs to find the file. The user then selects the appropriate file that the user wants to restore from the list.

As stated above, Prahlad and Shi do not teach or suggest organizing applications or files from different source servers. Arakawa does not teach or suggest organizing different versions of a file from different source servers and different PCPIs.

Accordingly, Applicant respectfully urges that Prahlad, Arakawa and Shi, taken alone or in combination, are legally insufficient to make obvious the presently claimed invention under 35 U.S.C. § 103 because of the absence of the Applicant's claimed novel *allows the plurality of PCPIs and the data to be displayed in (a) a listing of source data entries indexed by names of directories, file or qtrees of the source storage system, where each directory, file, or qtree has one or more versions created at one or more different points in time (b) a listing of source data entries indexed by names of the source storage system, and (c) a listing of source data entries indexed by names of volumes of the destination storage system in which the backup data from the source data resides*

All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims.

The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account
No. 03-1237.

Respectfully submitted,

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